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EARTHQUAKES: Texas regulators say there's little they can do on quakes

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AUSTIN, Texas -- State oil and gas regulators here are working with researchers studying a string of earthquakes that may be tied to oil and gas drilling, but they don't have the authority to shut down an operation if they verify a link.

It would take a new state law or new regulations to address the potential link between earthquakes and the injection wells used to dispose of oil and gas waste, Barry Smitherman, chairman of the three-member Texas Railroad Commission, said after hearing from a group of residents who are being shook by earthquakes outside of Azle.

If the ongoing study "finds a link, we need to take a hard look at all these injection wells in this area," Smitherman said.

However, the commission isn't including earthquake protection in its rewrite of the rules for disposal wells. And Smitherman said he hasn't spoken to the operators of the injection wells in the vicinity of the quakes.



Residents from Azle, who have dealt with earthquakes that may be linked to wastewater injection demonstrate outside a meeting of the Texas Railroad Commission, which regulates the state's oil and gas industry. Photo by Mike Lee.

Smitherman, who is running as a Republican for state attorney general, said the Railroad Commission recently wrote tough standards for oil and gas wells, which Smitherman said showed the commission's commitment to safety.

More than 30 earthquakes have struck since Nov. 1 around Azle, about 20 miles northwest of Fort Worth, and many residents point to the injection wells in the region as a trigger ([EnergyWire](#), Dec. 5, 2013). Research has linked injection wells to earthquakes in Ohio, Oklahoma and other parts of Texas.

About 35 people from Azle attended yesterday's Railroad Commission meeting, and many of them urged the commission to shut down the wells near the earthquakes' epicenter.

Earthquakes have stopped in other parts of the country after injection wells were shut down.

"I would say to you that that's pretty good evidence that the earthquakes are being caused by injection wells," said Marc McCord, with the anti-drilling group Frac Dallas.

"That's about as close as science is going to get -- probability and statistics," he said.

McCord and other activists organized the Austin trip to capitalize on widespread frustration among Azle residents. No injuries have been reported from the tremors, but homeowners have complained about cracked walls and other damage. About 850 people attended a town hall meeting with Commissioner David Porter and commission staff on Jan. 2, and many of them were angry at the state agency's muted response ([EnergyWire](#), Jan. 3).

Scientists have known since the 1960s that injecting wastewater into the ground can trigger earthquakes. It's thought that the fluid can lubricate an existing fault, causing it to slip.

Azle sits over the Barnett Shale formation, which is where the oil industry pioneered the use of horizontal drilling and hydraulic fracturing, or fracking, to get oil and gas from tough underground formations.

Fracking itself isn't believed to contribute to earthquakes, but it creates millions of gallons of wastewater, and there has been a corresponding boom in disposal wells.

The commission announced earlier this month that it will hire an in-house seismologist to coordinate with earthquake researchers ([EnergyWire](#), Jan. 8), and the Texas Legislature has formed a subcommittee to study earthquakes ([EnergyWire](#), Jan. 17).

Pinpointing the problems

Commission staff said they're working with researchers at the U.S. Geological Survey and Southern Methodist University, who have set up instruments to pinpoint the location of the quakes.

The researchers think the epicenters are clustered northwest of Azle, commission staff said.

That's near two injection wells, owned by Exxon Mobil Corp. subsidiary XTO Energy and Houston-based Enervest Ltd. However, the amount of injection at those two wells is lower now than when they first started operating, Smitherman said.

The commission has inspected about a dozen injection wells within 15 miles of Azle, and one of them was closed after an underground leak was discovered. Most of the disposal wells are drilled into the Ellenburger Formation, which is deeper than the Barnett Shale and more than 5,000 vertical feet from the area's underground aquifers.

But the inspections covered only conventional problems associated with oil and gas development -- making sure the wells protect fresh water and adequately contain the fluid, said Gil Bujano, the commission's director of oil and gas operations. The commission can act immediately if it discovers, for instance, that fluid has escaped from the injection zone.

If it took that step, though, the commission would be required to hold a hearing and allow the operator to present evidence -- a process that could take three months, general counsel Lindil Fowler said.

Also, the commission doesn't have authority to investigate surface damage, so it can't legally investigate the reports of cracked walls and other problems, Executive Director Milton Rister said.

The commission's staff have checked out other complaints in Azle, such as reports of oily sheen in water. The commission is waiting on test results from one case, and a homeowner is conducting his own tests in another, staffers said at the meeting. The commission couldn't find evidence in one report and hasn't heard back from residents in two others.

Smitherman compared the complaints about earthquakes to complaints about the dust and truck traffic that are frequently associated with injection wells. The commission has told residents it has no authority to regulate those side issues, and Texas courts have sided with it.

"If we're going to take those into account, then the law's going to need to be changed," Smitherman said.